

METHOD AND SYSTEM FOR STORING INFORMATION USING NANO-
PINNED DIPOLE MAGNETIC VORTICES
IN SUPERCONDUCTING MATERIALS

ABSTRACT OF THE DISCLOSURE

A method includes providing a superconducting material having pinning sites that can pin magnetic vortices within the superconducting material. The method 5 also includes pinning one or more magnetic vortices at one or more of the pinning sites. An information storage apparatus includes a superconducting material, doped particles within the superconducting material that can pin dipole magnetic vortices, a magnetic tip that 10 generates pinned magnetic vortices and a magnetic detector that detects pinned magnetic vortices.